

CLAIM AMENDMENTS

Claim 1 (withdrawn): A flavonoids extract obtained from a traditional Chinese medicine Typhae Pollen, comprising flavonoids constituents including a kaempferol, a kaempferol-3-O-neohesperidoside, a kaempferol-3-O-(2^G-α-L-rham)-rutinoside, a kaempferol-3-rutino-7-rhamnoside, a quercetin, a quercetin-3-O-neohesperidoside, a quercetin-3-O-(2^G-α-L-rham)-rutinoside, a quercetin-3-rutino-7-rhamnoside, an isorhamnetin, an isorhamnetin-3-O-neohesperidoside, an isorhamnetin-3-O-(2^G-α-L-rham)-rutinoside, and an isorhamnetin-3-rutino-7-rhamnoside.

Claim 2 (withdrawn): The flavonoids extract, as recited in claim 1, wherein said Typhae Pollen having a plant body is a common name of a family Typhaceae and is at least one of the portions of said plant body selecting from a whole plant body, a pollen, a spica, a stem, a leaf, a fruit, a root and a rootstalk.

Claim 3 (withdrawn): The flavonoids extract, as recited in claim 1, wherein said Typhae Pollen having a plant body is a common name of a family Typhaceae and is originated from a mature pollen of the plant body.

Claim 4 (withdrawn): The flavonoids extract, as recited in claim 1, wherein said Typhae Pollen is capable of having the forms selecting from the group consisting of a crude form which is the crude Typhae Pollen and a non-crude form which is treated, wherein said non-crude form is capable of selecting from the group consisting of fried Typhae Pollen, brunt Typhae Pollen, alcoholic Typhae Pollen and vinegar Typhae Pollen.

Claim 5 (withdrawn): The flavonoids extract, as recited in claim 1, wherein a total percentage composition of said plurality of constituents is in the range between 5% and 100% by weight.

Claim 6 (withdrawn): The flavonoids extract, as recited in claim 5, wherein a percentage composition of said isorhamnetin-3-O-(2^G-α-L-rham)-rutinoside and said isorhamnetin-3-O-neohesperidoside is a range of 20% and 100% by weight.

Claim 7 (withdrawn): The flavonoids extract, as recited in claim 1, wherein said flavonoids constituents are in a degraded form produced by a process of degradation

carried out under a predetermined condition selecting from the group of heating condition, acidic condition, alkaline condition and enzyme condition.

Claim 8 (withdrawn): The flavonoids extract, as recited in claim 1, wherein said flavonoids constituents are in a metal derivative form produced by a reaction with a predetermined metal salt selecting from the group consisting of a sodium salt and a potassium salt.

Claim 9 (withdrawn): The flavonoids extract, as recited in claim 1, wherein said flavonoids constituents are in a metal complex form produced by a reaction with a predetermined metal ion selecting from the group consisting of zinc ion, magnesium ion, chromium ion, iron ion, aluminum ion, copper ion, calcium ion, cobalt ion, barium ion, strontium ion, and zirconium ion.

Claim 10 (withdrawn): The flavonoids extract, as recited in claim 1, wherein said flavonoids extract is produced from a predetermined process of extraction selecting from the group consisting of a solvent extraction process; a macroporous resin adsorption process; a lead salt precipitation process; a supercritical CO₂ extraction process; a column chromatography process and a liquid-liquid reflux extraction process.

Claim 11 (withdrawn): The flavonoids extract, as recited in claim 10, wherein said solvent extraction process comprises the steps of:

(a) providing a predetermined starting extract materials in water;

(b) removing oil soluble impurities by a low polarity agent selected from the group consisting of ether, alkane, and ester solvent; and

(c) obtaining a resulting flavonoids extract by applying at least one predetermined polar solvent selecting from the group consisting of butanol, isopropanol and chloroform.

Claim 12 (withdrawn): The flavonoids extract, as recited in claim 10, wherein said macroporous resin adsorption process comprises the steps of:

(a) providing a predetermined resin selected from the group consisting of non-polar resin, low polarity resin, medium polarity resin, weak basicity resin and weak acidity resin; and

(b) using a predetermined extracting agent selected from the group consisting of water, ethanol in water, methanol in water, and propanone in water for extracting a resulting flavonoids extract.

Claim 13 (withdrawn): The flavonoids extract, as recited in claim 10, wherein said lead salt precipitation process comprises the steps of

(a) providing a predetermined lead salt agent selecting from the group consisting of lead acetate and basic lead acetate; and

(b) using a predetermined demineralizing agent selecting from the group consisting of H₂S, phosphate and sulfate for extracting a resulting flavonoids extract.

Claim 14 (withdrawn): The flavonoids extract, as recited in claim 10, wherein said column chromatography process comprises the steps of

(a) providing predetermined starting extract materials;

(b) providing a stationary bed having materials selected from the group consisting of silica gel, polyamide, aluminum oxide, polysaccharide, C-8, C-18, active charcoal, and cellulase; and

(c) using a mixing eluting agent selecting from at least two of the group consisting of water, methanol, ethanol and propanone, chloroform and ethyl acetate to obtain a resulting flavonoids extract.

Claim 15 (withdrawn): The flavonoids extract, as recited in claim 14, wherein said starting extract materials is a preliminary purifying substance obtained from a purification process, wherein said purification process comprises a step of purifying a flavonoids extract prepared by a predetermined preliminary extraction process selecting from the group consisting of solvent extraction process, macroporous resin adsorption process, lead salt precipitation and supercritical CO₂ extraction process.

Claim 16 (withdrawn): The flavonoids extract, as recited in claim 10, wherein said liquid-liquid reflux extraction process comprises the steps of

- (a) providing a predetermined starting extract materials in water;
- (b) removing oil soluble impurities by a low polarity agent selected from the group consisting of ether, alkane, and ester solvent; and
- (c) obtaining a resulting flavonoids extract by applying at least one predetermined polar solvent selected from the group consisting of butanol, isopropanol and chloroform.

Claim 17 (withdrawn): The flavonoids extract, as recited in claim 16, wherein said starting extract materials is a preliminary purifying substance obtained from a purification process, wherein said purification process comprises a step of purifying a flavonoids extract prepared by a predetermined preliminary extraction process selecting from the group consisting of solvent extraction process, macroporous resin adsorption process, lead salt precipitation and supercritical CO₂ extraction process.

Claim 18 (withdrawn): A method of preparing a flavonoids extract including a kaempferol, a kaempferol-3-O-neohesperidoside, a kaempferol-3-O-(2^G-α-L-rham)-rutinoside, a kaempferol-3-rutino-7-rhamnoside, a quercetin; a quercetin-3-O-neohesperidoside, a quercetin-3-O-(2^G-α-L-rham)-rutinoside, a quercetin-3-rutino-7-rhamnoside, an isorhamnetin, an isorhamnetin-3-O-neohesperidoside, an isorhamnetin-3-O-(2^G-α-L-rham)-rutinoside, and an isorhamnetin-3-rutino-7-rhamnoside, wherein said method comprises an extraction process, a filtration process, a condensation process, and a drying process.

Claim 19 (withdrawn): The method, as recited in claim 18, wherein said extraction process comprising the steps of:

providing a predetermined solvent selecting from the group consisting of water, acetate solvent, ketone solvent, and ester solvent, wherein said predetermined solvent is capable of reacting with a predetermined substance selecting from the group consisting of acid and alkali to form an acidic solvent and an alkaline solvent

respectively such that said acidic solvent and said alkaline solvent are capable of used to substitute said predetermined solvent; and

obtaining said flavonoids extract by a method of solvent extraction selecting from the group consisting of refluxation, diffusion, ultraextraction, microextraction and pressure extraction.

Claim 20 (withdrawn): The method, as recited in claim 19, wherein said predetermined solvent is 70% ethanol.

Claim 21 (withdrawn): The method, as recited in claim 18, wherein said filtration process is selected from the process consisting of centrifugation, extract filtration, pressure filtration, ultrafiltration.

Claim 22 (withdrawn): The method, as recited in claim 21, wherein said filtration process comprises a step of providing a fining agent selecting from the group consisting of gelatin, active charcoal, infusorial earth, china clay; resins, polyethylene glycol, polyethene triol, chitsoan, and natural fining agent.

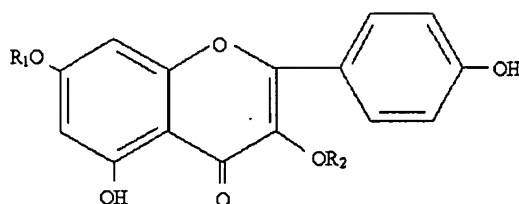
Claim 23 (withdrawn): The method, as recited in claim 18, wherein said condensation process is a process selecting from the group consisting of film evaporation, rotatory evaporation and heating under a normal pressure condition.

Claim 24 (withdrawn): The method, as recited in claim 18, wherein said drying process is a process selected from the group consisting of vacuum drying, spray drying and freeze drying.

Claims 25-32 (canceled).

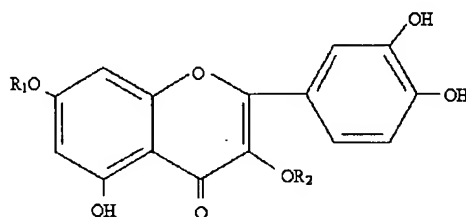
Claim 33 (withdrawn): An extract of Typhae Pollen wherein one of said extract components is flavonol glycosides and said active components of said flavonol glycosides are a combination of the group selected from structural formulae (A), (B) and (C), wherein said structural formula (A) consists of chemical components (1), (2), (3) and (4); said structural formula (B) consists of chemical components (5), (6), (7) and (8); and said structural formula (C) consists of chemical components (9), (10), (11), (12) and (13);

wherein said structural formula (A) is:



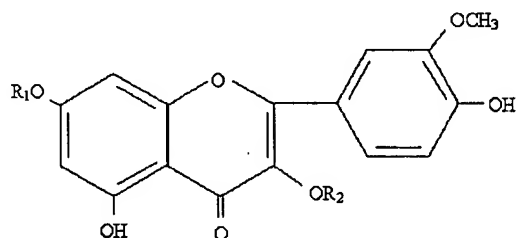
where said chemical component (1) is $R_1 = R_2 = H$, said chemical component (2) is $R_1 = H$, $R_2 =$ neohesperidoside, said chemical component (3) is $R_1 = H$, $R_2 = (2^G\text{-rham})\text{-rutinoside}$, and said chemical component (4) is $R_1 =$ rhamnoside, $R_2 =$ rutinoside;

wherein said structural formula (B) is:



where said chemical component (5) is $R_1 = R_2 = H$, said chemical component (6) is $R_1 = H$, $R_2 =$ neohesperidoside, said chemical component (7) is $R_1 = H$, $R_2 = (2^G\text{-rham})\text{-rutinoside}$, and said chemical component (8) is $R_1 =$ rhamnoside, $R_2 =$ rutinoside;

wherein said structural formula (C) is:



where said chemical component (9) is $R_1 = R_2 = H$, said chemical component (10) is $R_1 = H$, $R_2 =$ neohesperidoside, said chemical component (11) is $R_1 = R_2 =$ rutinoside, said chemical component (12) is $R_1 = H$, $R_2 = (2^G\text{-rham})\text{-rutinoside}$, and said chemical component (13) is $R_1 =$ rhamnoside, $R_2 =$ rutinoside.

Claim 34 (withdrawn): The extract of Typhae Pollen, as recited in claim 31, wherein said chemical components (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12) and (13) are kaempferol, kaempferol-3-O-neohesperidoside, kaempferol-3-O-(2^G-α-L-rham)-rutinoside, kaempferol-3-rutino-7-rhamnoside, quercetin, quercetin-3-O-neohesperidoside, quercetin-3-O-(2^G-α-L-rham)-rutinoside, quercetin-3-rutino-7-rhamnoside, isorhamnetin, isorhamnetin-3-O-neohesperidoside, isorhamnetin-3-O-(2^G-α-L-rham)-rutinoside and isorhamnetin-3-rutino-7-rhamnoside, respectively.

Claim 35 (new): A method of treating a patient with blood circulation problems including hyperlipemia, arteriosclerosis, coronary arterial disease, myocordial infarction, cerebral thrombosis, cerebral vascular accident, sequela of cerebral vascular accident, chest pain, stomachache, physical injuries, puerperium pain and menstruation pain, hematemesis, bleeding, apistaxis, external bleeding, kidney malfunction, melana, endermic bleeding, internal bleeding and bleeding induced from wounding, wherein the method comprises a step of:

administering a flavonoids extract obtained from a Chinese medicine Typhae Pollen, wherein said flavonoids extract comprises flavonoids constituents including a kaempferol, a kaempferol-3-O-neohesperidoside, a kaempferol-3-O-(2^G-α-L-rham)-rutinoside, a kaempferol-3-rutino-7-rhamnoside, a quercetin, a quercetin-3-O-neohesperidoside, a quercetin-3-O-(2^G-α-L-rham)-rutinoside, a quercetin-3-rutino-7-rhamnoside, an isorhamnetin, an isorhamnetin-3-O-neohesperidoside, an isorhamnetin-3-O-(2^G-α-L-rham)-rutinoside, and an isorhamnetin-3-rutino-7-rhamnoside.

Claim 36 (new): The method, as recited in claim 35, wherein a percentage composition of said isorhamnetin-3-O-(2^G-α-L-rham)-rutinoside and said isorhamnetin-3-O-neohesperidoside is a range of 20% and 100% by weight.

Claim 37 (new): The method, as recited in claim 35, wherein said flavonoids constituents are in a degraded form produced by a process of degradation carried out under a predetermined condition selecting from the group of heating condition, acidic condition, alkaline condition and enzyme condition.

Claim 38 (new): The method, as recited in claim 35, wherein said flavonoids constituents are in a metal derivative form produced by a reaction with a predetermined metal salt selecting from the group consisting of a sodium salt and a potassium salt.

Claim 39 (new): The method, as recited in claim 35, wherein said flavonoids constituents are in a metal complex form produced by a reaction with a predetermined metal ion selecting from the group consisting of zinc ion, magnesium ion, chromium ion, iron ion, aluminum ion, copper ion, calcium ion, cobalt ion, barium ion, strontium ion, and zirconium ion.

Claim 40 (new): The method, as recited in claim 35, wherein said flavonoids extract is produced from a predetermined process of extraction selecting from the group consisting of a solvent extraction process; a macroporous resin adsorption process; a lead salt precipitation process; a supercritical CO₂ extraction process; a column chromatography process and a liquid-liquid reflux extraction process.